

**NETWORK PERFORMANCE MONITORING AND RESTORATION
BASED ON TRANSMISSION CODE VIOLATIONS**

ABSTRACT OF THE DISCLOSURE

5 A network element (NE) in a communications network decodes a data
stream received over a communication link. Upon synchronization with the data
stream, the NE determines a performance metric for the link based on a number
of transmission code violations. In response to the performance metric exceeding
a predetermined threshold, the NE commands the selection of a different link to
10 carry the data stream via a switch signal. The switching or rerouting of signals
may occur between a single pair of NEs (e.g., point-to-point span) or in a more
complex topology having a plurality of interconnected NEs.